

## INTERNATIONAL SEARCH REPORT

International application No.  
PCT/KR00/00601

## A. CLASSIFICATION OF SUBJECT MATTER

IPC7 H04M 1/23

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC7 H04M 1/23, H04M 11/00, H04M 11/06, G06F 3/02

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Korean Patents and applications for inventions since 1975

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

WPI, JAPIO, USPTO, PAJ, IBM

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
T	KR 2000-42790A(SAMSUNG) 15 JUL 2000 PAGE3 BLOCK5 LINE 1-11	1, 18, 30, 31
A	EP 0457077A (ROLM SYSTEMS) 21 NOV 1991 PAGE1-2	1, 30, 31
A	US 4918721A (HASHIMOTO CORP) 17 MAR 1999 ABSTRACT	1, 30, 31
A	US 5392338A ( DANISH INTERNATIONAL INC) 21 FEB 1995 ABSTRACT	1, 30, 31
A	US 5434915 A ( AT & T CORP) 18 JUL 1995 ANTIRE DOCUMENT	1, 30, 31

 Further documents are listed in the continuation of Box C. See patent family annex.

- \* Special categories of cited documents:
- "A" document defining the general state of the art which is not considered to be of particular relevance
- "E" earlier application or patent but published on or after the international filing date
- "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of citation or other special reason (as specified)
- "O" document referring to an oral disclosure, use, exhibition or other means
- "P" document published prior to the international filing date but later than the priority date claimed

- "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
- "&" document member of the same patent family

Date of the actual completion of the international search 29 AUGUST 2000 (29.08.2000)	Date of mailing of the international search report 30 AUGUST 2000 (30.08.2000)
Name and mailing address of the ISA/KR Korean Industrial Property Office Government Complex-Taejon, Dunsan-dong, So-ku, Taejon Metropolitan City 302-701, Republic of Korea Facsimile No. 82-42-472-7140	Authorized officer MA, Jung Youn Telephone No. 82-42-481-5707



INTERNATIONAL SEARCH REPORT  
Information on patent family members

International application No.

PCT/KR00/00601

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
KR 2000-42790 A	15.07.00	NONE	
EP 0457077 A2	21.11.91	US 525365 A	16.05.90
US 5434915 A	18.07.95	US 32484994 A US 16332093 A US 5434915 A	14.10.94 08.12.93 18.07.95
US 5392338 A	21.02.95	US 88184992 A US 50037090 A US 5392338 A	12.05.92 28.03.90 21.02.95
US 4918721 A	17.04.90	JP 20972087 A GB 2209108 A HK 23095 A JP 1051859 A US 4918721 A	24.08.87 26.04.89 03.03.95 28.02.89 17.04.90

**PATENT COOPERATION TREATY**

From the  
INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

To:

KJM, Won-Ho

7th Fl., Teheran Bldg., 825-33 Yoksam-dong, Kangnam-ku,  
Seoul 135-080, Republic of KOREA

**PCT**



**NOTIFICATION OF TRANSMITTAL OF  
INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT**

(PCT Rule 71.1)

Date of mailing (day/month/year) 05 OCTOBER 2001 (05.10.2001)	
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Applicant's or agent's file reference MK-14921-PCT <i>opN 0/0001 KR</i>	<b>IMPORTANT NOTIFICATION</b>	
International application No. <b>PCT/KR00/00601</b>	International filing date (day/month/year) 09 JUNE 2000 (09.06.2000)	Priority date (day/month/year) 09 JUNE 1999 (09.06.1999)
<b>Applicant</b>		
KIM Min Kyum		

1. The applicant is hereby notified that International Preliminary Examining Authority transmits here with the international preliminary examination report and its annexes, if any, established on the international application.
2. A copy of the report and its annexes, if any, is being transmitted to the International Bureau for communication to all the elected Offices.
3. Where required by any of the elected Offices, the International Bureau will prepare an English translation of the report (but not of any annexes) and will transmit such translation to those Offices.
4. **REMINDER**

The applicant must enter the national phase before each elected office by performing certain acts (filing translations and paying national fees) within 30 months from the priority date (or later in some Offices) (Article 39(1)) (see also the reminder sent by the International Bureau with Form PCT/IB/301).

Where a translation of the international application must be furnished to an elected Office, that translation must contain a translation of any annexes to the international preliminary examination report. It is the applicant's responsibility to prepare and furnish such translation directly to each elected Office concerned.

For further details in the applicable time limits and requirements of the elected Offices, see Volume II of the PCT Applicant's Guide.

Name and mailing address of the IPEA/KR Korean Intellectual Property Office Government Complex-Daejeon, Dunsan-dong, Seo-gu, Daejeon Metropolitan City 302-701, Republic of Korea Facsimile No. 82-42-472-7140	Authorized officer COMMISSIONER Telephone No. 82-42-481-5210	
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## PATENT COOPERATION TREATY

## PCT

## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference MK-14921-PCT	<b>FOR FURTHER ACTION</b>	See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)
International application No. <b>PCT/KR00/00601</b>	International filing date (day/month/year) 09 JUNE 2000 (09.06.2000)	Priority date (day/month/year) 09 JUNE 1999 (09.06.1999)
International Patent Classification (IPC) or national classification and IPC <b>IPC7 H04M 1/23</b>		
Applicant KIM Min Kyum		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.

2. This REPORT consists of a total of 4 sheets, including this cover sheet.

This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of \_\_\_\_\_ sheets.

3. This report contains indications relating to the following items:

- I  Basis of the report
- II  Priority
- III  Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV  Lack of unity of invention
- V  Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI  Certain documents cited
- VII  Certain defects in the international application
- VIII  Certain observations on the international application

Date of submission of the demand  08 JANUARY 2001 (08.01.2001)	Date of completion of this report  26 SEPTEMBER 2001 (26.09.2001)
Name and mailing address of the IPEA/KR Korean Intellectual Property Office Government Complex-Daejeon, Dunsan-dong, Seo-gu, Daejeon Metropolitan City 302-701, Republic of Korea  Facsimile No. 82-42-472-7140	Authorized officer  MA, Jung Youn  Telephone No. 82-42-481-5703



## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/KR00/00601

## I. Basis of the report

## 1. With regard to the elements of the international application:\*

 the international application as originally filed the description:

pages \_\_\_\_\_

, as originally filed

pages \_\_\_\_\_

, filed with the demand

pages \_\_\_\_\_

, filed with the letter of \_\_\_\_\_

 the claims:

pages \_\_\_\_\_

, as originally filed

pages \_\_\_\_\_

, as amended (together with any statement) under Article 19

pages \_\_\_\_\_

, filed with the demand

pages \_\_\_\_\_

, filed with the letter of \_\_\_\_\_

 the drawings:

pages \_\_\_\_\_

, as originally filed

pages \_\_\_\_\_

, filed with the demand

pages \_\_\_\_\_

, filed with the letter of \_\_\_\_\_

 the sequence listing part of the description:

pages \_\_\_\_\_

, as originally filed

pages \_\_\_\_\_

, filed with the demand

pages \_\_\_\_\_

, filed with the letter of \_\_\_\_\_

## 2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language English which is the language of a translation furnished for the purposes of international search (under Rule 23.1(b)). the language of publication of the international application (under Rule 48.3(b)). the language of the translation furnished for the purposes of international preliminary examination (under Rules 55.2 and/or 55.3).

## 3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

 contained in the international application in written form. filed together with the international application in computer readable form. furnished subsequently to this Authority in written form. furnished subsequently to this Authority in computer readable form The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished. The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.4.  The amendments have resulted in the cancellation of: the description, pages \_\_\_\_\_ the claims, Nos. \_\_\_\_\_ the drawings, sheet \_\_\_\_\_5.  This opinion has been drawn as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).\*\*

\* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this opinion as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17).

\*\* Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.

## INTERNATIONAL PRELIMINARY EXAMINATION

International application No.

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## V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

## 1. Statement

Novelty (N)	Claims	1-33	YES
	Claims		NO
Inventive step (JS)	Claims	1-33	YES
	Claims		NO
Industrial applicability (IA)	Claims	1-33	YES
	Claims		NO

## 2. Citations and explanations (Rule 70.7)

The following documents are referred to:

D1 EP-A-457077

D2 US-A-4918721

D3 US-A-5392338

1. D1 and D2 disclose method and apparatus for accessing alphanumeric data, such as a person's first name, last name, and telephone number, from a database using information provided by keypads and pushbutton telephone used by a calling party to transmit both upper and lower case alphabetical characters on the telephone lines, but do not disclose method for inputting alphabet characters on a keypad like a telephone keyboard which does not have enough buttons for the alphabet characters.

D3 discloses timing dependant method for entering alphanumeric characters using a conventional push button telephone system having automatic response function is based upon the position of each alphabetic letter upon each key of the standardized telephone keypad matrix, but do not disclose properly using a BLE and peripheral lattice elements depending on the use frequency of the characters, thereby maximizing the input efficiency.

## 2. The closest state of the art appears to be represented by D3.

In Fig.2 and Fig.3 it has been shown a conventional push button telephone set showing a standard 4x3 matrix keypad in detail with the letters arrayed on the keys and a table showing the entry sequence for each of the alphanumeric characters shown on the keys.

However in D3 does not suggest that a method of selecting an alphabet character on a standard English keypad on which base lattice elements are not inscribed, using horizontal straight combination according to a part-whole selection method.

Thus claim 1, 14, 18, 31-33 also involve an inventive step and meet the requirement of Article 33(3)PCT

## 3. Claim 2-13, 15-17, 19-30 also comply with Article 33(2) and (3)PCT as they are dependent claims.

**INTERNATIONAL PRELIMINARY EXAMINATION**

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**VI. Certain documents cited****1. Certain published documents (Rule 70.10)**

<u>Application No. Patent No.</u>	<u>Publication date (day/month/year)</u>	<u>Filing date (day/month/year)</u>	<u>Priority date (valid claim) (day/month/year)</u>
EP-A-457077	21/11/91	25/04/91	16/05/90
US-A-4918721	17/04/90	24/08/88	24/08/87
US-A-5392338	21/02/95	12/05/92	

**2. Non-written disclosures (Rule 70.9)**

<u>Kind of non-written disclosure</u>	<u>Date of non-written disclosure (day/month/year)</u>	<u>Date of written disclosure referring to non-written disclosure (day/month/year)</u>